

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: January 9, 1997
Date Received: December 31, 1996
Project: Acid Samples, PO #M55646
Date Samples Extracted: January 6, 1997
Date Extracts Analyzed: January 7, 1997

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)
Samples Processed Using Method 3005A
Results Reported as µg/L (ppb)**

<u>Sample ID</u>	<u>M55646 A Small Tank</u>	<u>M55646 B Large</u>	<u>Method Blank</u>
Analyte:			
Arsenic	20	24	<5
Cadmium	<1	<1	<1
Chromium	6,400	8,200	<1
Lead	14	6.2	<1
Silver	<1	<1	<1
Copper	6,500	810	<1
Nickel	9,400	7,300	<1
Zinc	7.6	7.1	<1
Iron	38,000	42,000	<10

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QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 74681 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	mg/L(ppm)	24	23	4	0-20
Cadmium	mg/L(ppm)	<1	<1	nm	0-20
Chromium	mg/L(ppm)	8,200	7,500	9	0-20
Lead	mg/L(ppm)	6.2	5.3	16	0-20
Silver	mg/L(ppm)	<1	<1	nm	0-20
Copper	mg/L(ppm)	810	750	8	0-20
Nickel	mg/L(ppm)	7,300	6,700	9	0-20
Zinc	mg/L(ppm)	7.1	7.1	0	0-20
Iron	mg/L(ppm)	42,000	40,000	5	0-20

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery		Acceptance Criteria	Relative Percent Difference
			MS	MSD		
Arsenic	mg/L (ppm)	10	96	95	80-120	1
Cadmium	mg/L (ppm)	5	103	103	80-120	0
Chromium	mg/L (ppm)	5	95	95	80-120	0
Lead	mg/L (ppm)	10	96	96	80-120	0
Silver	mg/L (ppm)	2	84	86	50-150	2
Copper	mg/L (ppm)	5	96	97	80-120	1
Nickel	mg/L (ppm)	10	95	96	80-120	1
Zinc	mg/L (ppm)	5	95	96	80-120	1
Iron	mg/L (ppm)	10	104	104	80-120	0

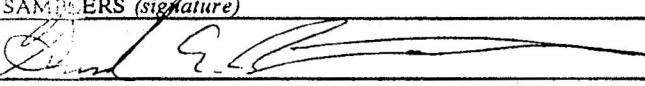
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

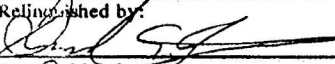

KJ AI
12-31-96
1:35

SAMPLE CHAIN OF CUSTODY

Send Report To: Alaskan Coffee Works Contact GERARD Thompson
Company 628 Hudson
Address Seattle WA 98131
City, State, Zip Seattle WA 98131
Phone # (206) 382-8779 FAX # (206) 382-4709 Date 12/31/96

SITE NO. <u>7338</u>	PROJECT NAME <u>Acid Samples</u>	PURCHASE ORDER # <u>M 55646</u>
SAMPLERS (signature) 		PROJECT LOCATION <u>3200 6th Ave.</u>
REMARKS		SAMPLE DISPOSAL INFORMATION <input type="checkbox"/> Dispose after 30 days <input checked="" type="checkbox"/> Return Samples <input type="checkbox"/> Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
M 55646 A Small Tank	12/31/96 1:00	H ₂ O ₃	1	71680	As, Cd, Cr, Cu, Pb, FE, Ag, Ni, Zn
M 55646 B Large	12/31/96 1:00	H ₂ O ₃	1	74081	As, Cd, Cr, Cu, Pb, FE, Ag, Ni, Zn
Sample has M 55646 A Large NIC					

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: 	GERARD Thompson	ACW	12/31/96	1:27pm
Received by: 	Bradley J Benson	KJ AI	12/31/96	1:27pm
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Beth M. Albertson, M.S.
Bradley T. Benson
Kelley D. Wilt

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044

January 9, 1997

**INVOICE # 97ACU0109-1
DUPLICATE COPY**

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project Acid Samples, PO #M55646: Results of testing requested by Gerry Thompson, Project Manager for material submitted on December 31, 1996.

2 process water samples analyzed for Total Metals
by Method 6010 @ \$115 per sample

\$ 230.00

Amount Due

\$ 230.00

FRIEDMAN & BRUYA, INC.

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3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
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January 9, 1997

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

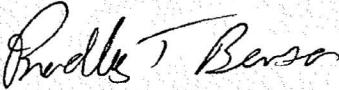
Dear Mr. Thompson:

Included are the results from the testing of material submitted on December 31, 1996 from your Acid Samples, PO #M55646 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



For
Kurt Johnson
Chemist

keh
Enclosures
ACU0109R.DOC